

IN THE CLAIMS:

Please write the claims to read as follows:

1 1-21. (Cancelled)

1 22. (Previously Presented) A method for use in an operator initiated graceful takeover in
2 a computer cluster having a first and second computer, the method comprising the steps
3 of:

4 receiving, at the second computer, an indication that the operator has requested
5 that the second computer take over for the first computer;

6 requesting, from the second computer, that the first computer shut down;

7 completing service requests at the first computer pending at the time the first
8 computer was requested to shut down;

9 transferring responsibilities of the first computer to the second computer; and

10 shutting down the first computer.

1 23. (Previously Presented) The method as in claim 22, further comprising:

2 generating the indication as an operator request from within the first computer;

3 and

4 sending the indication from the first computer to the second computer.

1 24. (Previously Presented) The method as in claim 22, further comprising: generating
2 the indication as an operator request from within the second computer.

1 25. (Previously Presented) The method as in claim 22, further comprising: refusing fur-
2 ther service requests at the first computer after the first computer was requested to shut
3 down.

1 26. (Previously Presented) The method as in claim 22, further comprising: transferring
2 access of a storage device for the first computer to the second computer.

1 27. (Previously Presented) The method as in claim 22, further comprising: asserting, at
2 the second computer, disk reservations of disks of the first computer.

1 28. (Previously Presented) The method as in claim 22, further comprising: rerouting file
2 service requests from the first computer to the second computer.

1 29. (Previously Presented) The method as in claim 22, further comprising: activating, at
2 the second computer, network interfaces and network addresses that replicate those of the
3 first computer.

1 30. (Previously Presented) The method as in claim 22, further comprising: initiating a
2 countdown timer subsequent to the shut down request from the second computer.

1 31. (Previously Presented) The method as in claim 30, further comprising: forcing the
2 first computer to shut down in the event the first computer is still operating at the expira-
3 tion of the countdown timer.

1 32. (Previously Presented) The method as in claim 22, further comprising: detecting, at
2 the second computer, the shut down of the first computer by the absence of a periodic
3 heartbeat signal.

1 33. (Previously Presented) The method as in claim 22, further comprising: storing, at the
2 first computer, state information of the first computer prior to shutting down.

1 34. (Previously Presented) The method as in claim 22, further comprising: sending peri-
2 odic requests from the second computer to the first computer to remain shut down, after
3 the first computer has shut down.

1 35. (Previously Presented) The method as in claim 22, further comprising: requesting,
2 from the first computer, that the second computer restore responsibilities of the first com-
3 puter to the first computer.

1 36. (Previously Presented) The method as in claim 22, further comprising: restoring re-
2 sponsibilities of the first computer to the first computer upon restart of the first computer.

1 37. (Previously Presented) The method as in claim 22, further comprising: using the first
2 and second computers as a file servers.

1 38. (Previously Presented) A storage system capable of performing an operator initiated
2 graceful takeover, the storage system comprising:

3 a first computer; and

4 a second computer having a processor to

- 5 i) receive an indication that the operator has requested that the second
- 6 computer take over for the first computer,
- 7 ii) request that the first computer shut down,
- 8 iii) allow the first computer to complete service requests pending at the
- 9 time the first computer was requested to shut down,
- 10 iv) take over any responsibilities of the first computer, and
- 11 v) allow the first computer to shut down.

1 39. (Previously Presented) The storage system as in claim 38, further comprising: a
2 processor for the first computer to i) generate the indication as an operator request, and ii)
3 send the indication to the second computer.

1 40. (Previously Presented) The storage system as in claim 38, further comprising: the
2 processor of the second computer to generate the indication as an operator request.

1 41. (Previously Presented) The storage system as in claim 38, further comprising: a
2 processor for the first computer to refuse further service requests at the first computer af-
3 ter the first computer was requested to shut down.

1 42. (Previously Presented) The storage system as in claim 38, further comprising:
2 a storage device for the first computer; and
3 an interconnect to transfer access of the storage device for the first computer to
4 the second computer.

1 43. (Previously Presented) The storage system as in claim 38, further comprising: disks
2 of the first computer, the disks to be reserved by the second computer while the first
3 computer is shut down.

1 44. (Previously Presented) The storage system as in claim 38, further comprising: an
2 interconnect to reroute file service requests from the first computer to the second com-
3 puter.

1 45. (Previously Presented) The storage system as in claim 38, further comprising:
2 network interfaces at the first computer;
3 network addresses at the first computer;
4 network interfaces at the second computer that replicate the network interfaces of
5 the first computer; and
6 network addresses at the second computer that replicate the network interfaces of
7 the first computer, the network interfaces and addresses at the second computer that rep-
8 licate the network interfaces and addresses of the first computer to be activated by the
9 second computer while the first computer is shut down.

1 46. (Previously Presented) The storage system as in claim 38, further comprising: a
2 countdown timer, the countdown timer to be initiated subsequent to the shut down re-
3 quest from the second computer.

1 47. (Previously Presented) The storage system as in claim 46, further comprising: an
2 interconnect to force the first computer to shut down in the event the first computer is still
3 operating at the expiration of the countdown timer.

1 48. (Previously Presented) The storage system as in claim 38, further comprising: an
2 interconnect at the second computer to detect the shut down of the first computer by the
3 absence of a periodic heartbeat signal.

1 49. (Previously Presented) The storage system as in claim 38, further comprising: per-
2 sistent memory at the first computer to store state information of the first computer prior
3 to shutting down.

1 50. (Previously Presented) The storage system as in claim 38, further comprising: an
2 interconnect at the second computer to send periodic requests to the first computer to re-
3 main shut down, after the first computer has shut down.

1 51. (Previously Presented) The storage system as in claim 38, further comprising: a
2 processor for the first computer to request that the second computer restore responsibili-
3 ties of the first computer to the first computer.

1 52. (Previously Presented) The storage system as in claim 38, further comprising: an
2 interconnect to restore responsibilities of the first computer to the first computer upon
3 restart of the first computer.

1 53. (Previously Presented) The storage system as in claim 38, further comprising: the
2 first and second computers are file servers.

1 54. (Previously Presented) A storage system capable of performing an operator initiated
2 graceful takeover, the storage system comprising:

3 a first computer;
4 a second computer;
5 means for receiving, at the second computer, an indication that the operator has
6 requested that the second computer take over for the first computer;
7 means for requesting, from the second computer, that the first computer shut
8 down;
9 means for completing service requests at the first computer pending at the time
10 the first computer was requested to shut down;
11 means for transferring responsibilities of the first computer to the second com-
12 puter; and
13 means for shutting down the first computer.

1 55. (Previously Presented) A computer readable media, comprising: the computer read-
2 able media containing instructions for execution in a processor for the method of,
3 receiving, at a second computer, an indication that an operator has requested that
4 the second computer take over for a first computer;
5 requesting, from the second computer, that the first computer shut down;
6 completing service requests at the first computer pending at the time the first
7 computer was requested to shut down;
8 transferring responsibilities of the first computer to the second computer; and
9 shutting down the first computer.

1 56. (Previously Presented) Electromagnetic signals propagating on a computer network,
2 comprising: the electromagnetic signals carrying instructions for execution in a processor
3 for the method of,

4 receiving, at a second computer, an indication that an operator has requested that
5 the second computer take over for a first computer;
6 requesting, from the second computer, that the first computer shut down;
7 completing service requests at the first computer pending at the time the first
8 computer was requested to shut down;
9 transferring responsibilities of the first computer to the second computer; and
10 shutting down the first computer.